

Leading Edge

July 2005

Air Force Materiel Command



Combat capable

page 10 Three deliveries down 23 to go

AF Photo by Tech. Sgt. Ben Bloker

Integrity First...

Tinker's Structural Integrity Test Facility keeps materials in check

Mr. Darrel Mercer eyes a metal slice being stressed to create nearly invisible cracks, which are then grown and studied in the Structural Integrity Test Facility at Tinker Air Force Base, Okla. Observable under a microscope, the cracks in various metals tell the engineer how different metals will react to stress and how much load they can take before a crack is critical. (AF photo by Margo Wright)

LEADING EDGE

Headquarters
Air Force Materiel
Command

Wright-Patterson Air Force
Base, Ohio

Commander
Gen. Gregory S. Martin

Director of Public Affairs
Col. Ed Worley

Chief, Command
Communication
Robert Ely

Executive Editor
1st Lt. Lea Chambers

Editorial Assistant
Michelle Gigante



This funded magazine is published monthly for the people of Air Force Materiel Command.

Contents are not necessarily the official views of, nor endorsed by, the U.S. Government, the Department of Defense or the Department of the Air Force.

Editorial content is coordinated and prepared by the HQ AFMC Office of Public Affairs editorial and design staff.

For writers' guidelines and information on submitting photographs or articles for publication, call the executive editor at 937-257-1203 (DSN 787-1203); or write to:

The Leading Edge
HQ AFMC/PAI
4375 Chidlaw Road
Bldg 262 Rm N-152
WPAFB, OH 45433-5006
Email:
AFMCPa.newsroom@wpafb.af.mil

Mission Focus

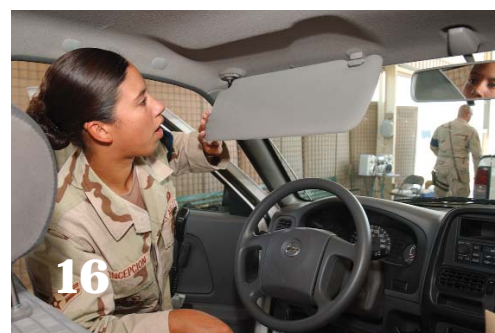
- 4 Command celebrates birthday
Commander's Column
- 6 Where we are
Mission Briefs
- 8 Saying goodbye
AFMC Vice Commander retires
- 10 Combat ready F/A-22 delivered
Focus on Acquisition Support
- 13 Final JSTARS delivered
Focus on Acquisition Support

Mission Progress

- 14 Testing the waters
Buoy gives wave information to AF
- 15 New partners
Chilean AF receives first F-16

Features

- 16 Protecting the people
Young Security Forces airmen excel
- 18 Explosive Ordnance Disposal
Memorial honors sacrifice
- 20 Students and science
Space sparks interest
- 21 Moulage
Making readiness real
- 22 Initiation
Technology trailblazer honored





Around the command



Gen. Gregory S. Martin



Command's ingenuity

makes a fitting birthday observance

Sometimes we take for granted things that are actually amazing. I'm thinking specifically of an incident a few weeks ago in Afghanistan in which a B-52 Stratofortress dropped three Joint Direct Attack Munitions (JDAMs) on a cave of anti-coalition forces.

The JDAMs killed two enemy combatants and led to the capture of 10 others by coalition ground forces, according to Air Force Print News, which covered the engagement in a story headlined "B-52 aids ground troops under small arms fire." The article went on to say the mission was one of 22 close-air support and armed reconnaissance sorties flown that day by coalition aircraft.

Yes, you read that right – a B-52 providing close-air support. Who would have imagined when the last B-52s were built more than 40 years ago, that they would still be flying today, much less being used for close air support! If you've spent much time in AFMC, you know the answer. The teams we have dedicated to

sustaining our aircraft, along with the support we provide to our operational major commands to modernize and upgrade their capabilities, are just magnificent. And, figuring out how to provide the venerable BUFF with the right communications systems, the right target location and tracking systems and the right precision weapons is just one example of how AFMC people are delivering war-winning, expeditionary capabilities to the warfighter. I couldn't ask for a better testament to your outstanding contributions than these words from the mission lead on the ground to AFPN about the engagement: "It felt really good when we heard that the bomb hit the cave dead on and closed all three entrances."





It's this kind of ingenuity and expertise that has fulfilled the promise and hope implicit in the reorganization that created AFMC 13 years ago. On a muggy, hazy July 1, 1992, then-Secretary of the Air Force Donald B. Rice and other Air Force leaders gathered on a stage outside the National Museum of the United States Air Force to stand up the newly formed AFMC. Just days before, the flags of Air Force Logistics Command and Air Force Systems Command had been furled as both commands were inactivated.

Air Force Materiel Command was built on the best practices and traditions of AFLC and AFSC. Its mission: to provide the Air Force with a single command responsible for cradle-to-grave management of research and development, acquisition, test and evaluation, and sustainment.

Over the years AFMC commanders each have shaped important components of the command's mission. Gen. Ron Yates built the new command's identity, taking cradle-to-grave weapon systems management from the drawing board to implementation. Gen. Butch Viccellio rooted out redundancies and inefficiencies in logistics and supply-chain management. Gen. George Babbitt brought proven and powerful financial and management practices from the world of business to the AFMC mission. Gen. Les Lyles championed the command's efforts in science and technology while, at the same time, initiating major transformational improvements in our depot maintenance processes.

I'm proud to have had the opportunity to build on the AFMC tradition my predecessors helped create. This command's work over the past 13 years has made its nearly 80,000 people valued members of the world's greatest air and space force. As we continue to fight the Global War on Terror, our commitment to provide the latest and best capabilities to America's warfighters remains paramount. Our people have made AFMC what it is today, a world-class organization delivering war-winning capabilities on time, on cost.

(Left) AFMC is activated during a July 1, 1992, ceremony at Wright-Patterson Air Force Base, Ohio. From left to right, are Secretary of the Air Force Donald Rice; Air Force Chief of Staff Merrill McPeak; and AFMC Commander General Ronald Yates. (AF photo)



Senior Airman Stephanie Lopez straps a Joint-Direct Attack Munition that will be loaded on a B-52 Stratofortress to a bomb-lift vehicle. She is a weapons loader with the 40th Expeditionary Maintenance Squadron at a forward-deployed location and is from Minot Air Force Base, N.D. (AF photo by Staff Sgt. Jocelyn Rich)

Can't let down our guard on safety

101

Our Air Force experienced the most tragic start to the 101 Critical Days of Summer in recent memory when we lost five Airmen over the Memorial Day weekend. Unfortunately, the most dangerous period is still ahead of us. Historically, a significant increase in accidents and fatalities occurs in mid-to-late August.

I don't know why that happens, but I do know the well-being of AFMC people and

their families is my greatest concern. I mean it. This command's outstanding people stand behind every weapon system we develop, field, operate, and sustain. The loss of one person affects our ability to accomplish the mission and causes significant pain and suffering to family members and coworkers.

The Air Force's goal is clear: avoid the loss of a single military or civilian Airman to a preventable accident or mishap.

Please be alert to potential risks in all you do, but especially during outdoor recreational activities in the coming weeks. Be a good Wingman – intervene when your fellow Airman or friend is about to make a risky decision. And avoid risky activities yourself – your family and friends need you, and so does your Air Force and AFMC.



Drug testing affects civilians

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — Air Force Materiel Command soon will expand its testing of Air Force civilians for marijuana and cocaine use to include detection of amphetamines, opiates, and phencyclidine. In implementing the revised Air Force drug-testing policy, AFMC also will increase the number of random drug tests and validate every test specimen.

The Air Force revised its civilian drug-testing policy in December in conjunction with modified federal work place drug-testing guidelines established by the Department of Health and Human Services.

“Since AFMC is so heavily civilianized, further discussion between AFMC officials and command union representatives was required before the changes could be implemented,” said Mr. John Day, chief, AFMC Civilian Personnel and Programs.

“This change has been in the works since October 2003,” said Lt. Col. Christopher Robinson, manager of the Air Force Alcohol and Drug Abuse Prevention and Treatment Program and the Drug Demand Reduction Program. The Air Force has set aside additional funds through fiscal year 2009 for the testing program, he said.

The civilian drug-testing program applies to civilian Airmen in drug-testing-designated positions, or TDPs. AFMC has approximately 8,900 TDPs. Types of TDPs in AFMC include, but are not limited to, positions involving law enforcement, national security, or public health and safety.

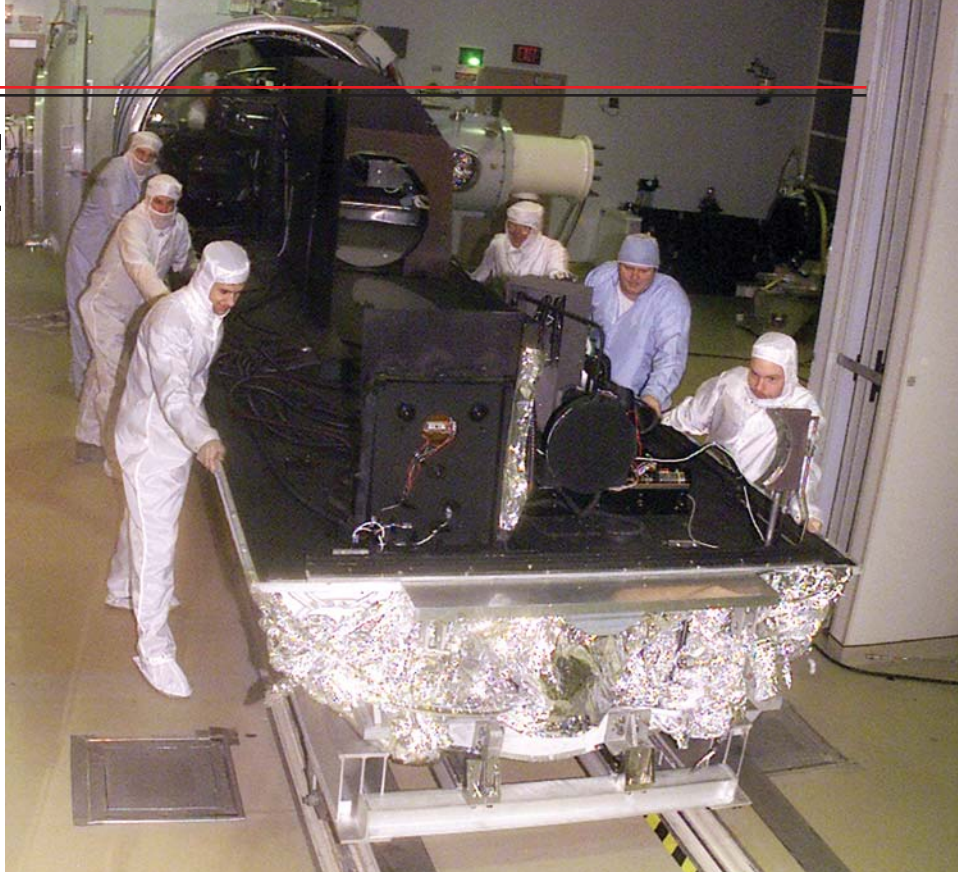
“Air Force officials determine TDPs, which are characterized by safety and/or security responsibilities as they relate to mission accomplishment,” said Mr. Day.

The number of random drug tests now will equal the number of TDPs. Previously, Air Force policy required that only 50 percent of civilian Airmen in TDPs undergo annual random drug testing.

As required by the Department of Health and Human Services, and like all federal agencies, the Air Force now will perform a specimen validity test on every civilian urine sample collected. Validity tests detect adulteration, dilution and substitution of unobserved collections of urine specimens.

AFMC’s civilian Airmen are essential to accomplishing the command’s mission of delivering war-winning capabilities on time and on cost, said Col. William Tate, deputy, AFMC Surgeon General. “In turn, we have a responsibility to our civilian work force to provide a safe and drug-free work place,” he said. “It all comes back to being a good wingman and looking out for each other.”

— AFMC Public Affairs



From left to right, David Stanek, instrument technician; Roger Johnson, instrument technician; Josh Drumm, systems test engineer; Ed White, senior systems test engineer; Ricky Bush, outside machinist; and Aaron Wojcik, systems test engineer, at the Arnold Engineering Development Center’s 7V Space Chamber, remove an optical bench in the clean room at the 7 by 21-foot test chamber. (courtesy photo)

Space chamber undergoes facility upgrade

ARNOLD AIR FORCE BASE, Tenn.— A major upgrade to Arnold Engineering Development Center’s 7V space chamber facility is under way.

Demolition on the chamber’s clean room began in April as part of a major upgrade project. The 7V chamber has been the primary sensor calibration facility at AEDC since the early 1970s.

Significant performance and capability upgrades to the facility were completed in March 1994, resulting in an advanced capability for the next generation of seeker and surveillance sensors.

The 7V chamber is a deep space simulation test facility designed to test surveillance, airborne, and interceptor sensors. According to 7V Project Manager John Humphries, the upgrade project, valued at close to \$800,000, will bring the facility up to 21st-century standards.

“The goal is to make sure we have a new, essentially 21st-century clean room to offer to our customers,” he said. “This will result in an improved clean room environment, which is critical for protecting the customer’s test article and the facility hardware.”

— AEDC Public Affairs

Air Force Materiel Command civilian Airman

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — Air Force Materiel Command’s Randy Adkins made a significant difference in federal information technology during 2004, according to Federal Computer Weekly magazine’s panel of top-level

Defense Department and industry information technology leaders.

As the director of the Air Force Knowledge Now program, he is one of the nation’s top knowledge. Mr. Adkins has been a frequent speaker at government conferences and industry



C-130J testers accomplish first five-bundle sequential airdrop

EDWARDS AIR FORCE BASE, Calif.— Developmental test and evaluation on the C-130J came to a head when testers at Edwards Air Force Base, Calif., successfully completed a five-bundle sequential Low Velocity Airdrop, or LVAD, for the first time ever.

As part of the C-130J test program, members from the 418th Flight Test Squadron tested Block 5.4 software upgrades by rigging five bundles aboard the stretch C-130J and releasing them on the Precision Impact Range Area at Edwards in April.

The sortie's test points hit all the edges of the aircraft's envelope, said Tech. Sgt. Jason Kunkel, 418th FLTS loadmaster. Bundles the test team rigged weighed 40,100 pounds, landing 1,000 feet apart and only five yards off the planned point of impact.

Prior to this test, the LVAD capability was limited to four bundles, said Sergeant Kunkel.

"Right now, we're doing everything we need to do before the

aircraft graduates to operational testing," said Sergeant Kunkel. "By working closely with the contractor, we were able to identify and fix deficiencies to ensure the Air Force received a workable system."

— AFMTC Public Affairs

An Edwards C-130J files over the Precision Impact Range Area during an April 13 sortie. Developmental test and evaluation on the C-130J came to head when testers successfully completed a five-bundle sequential Low Velocity Airdrop, LVAD, for the first time ever during the sortie. (AF photo by Chad Bellay)



Minotaur blasts off carrying Air Force Research Laboratory satellite

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – The Air Force Research Laboratory successfully launched an experimental satellite in April from Vandenberg AFB, Calif., onboard a Space and Missile Systems Center Minotaur rocket.

The four-stage Minotaur rocket carrying the XSS-11 microsatellite blasted off at 6:35 a.m. from Vandenberg's Space Launch Complex-8, according to plan.

"The launch went like clock work," said XSS-11 program manager Vernon Baker, AFRL Space Vehicles Directorate, Kirtland AFB, N.M. "The Minotaur put us in orbit where we needed to be, and all systems are working well. I'm exhilarated that XSS-11 is working the way we anticipated."

Developed by the AFRL Space Vehicles Directorate, the \$80-million XSS-11's mainbody represents a new class of low-cost satellites that weigh roughly 100 kilograms. With a 9-foot wing span, the XSS-11 is about the size of a dishwasher, much smaller than a typical satellite.

According to Mr. Baker, the XSS-11

will demonstrate the ability to autonomously plan and rendezvous with



XSS-11 lifts off aboard a Minotaur rocket from Vandenberg AFB's Space Launch Complex-8 on April 11. During its year-long mission, XSS-11 will rendezvous with 6-8 U.S.-owned objects to demonstrate autonomous and proximity operations. (AF photo)

approved space objects near the satellite's orbit. During its 12 to 18 month mission in space, the satellite will rendezvous with six to eight approved U.S.-owned objects in its orbit – inactive or dead research satellites or spent rocket stages.

Enabling the XSS-11 to encounter these objects is a sophisticated on-board planner — a computer processor, which gives XSS-11 its ability to autonomously plan operations. The planner will take a series of objectives and constraints and build a plan to accomplish the objectives.

"This is a significant step in space operations," said Mr. Baker. "An advancement of this magnitude has never been accomplished in space."

If the technology is successfully demonstrated, Mr. Baker said it will help to reduce the costs of operating, launching and building a satellite. While there is no specific military application, XSS-11 will help to pave the way for future space servicing, diagnostics, maintenance, and space support missions.

— AFRL Public Affairs

are among nation's top information technology managers

organizations looking to leverage knowledge sharing. He saw the need for a robust, effective knowledge sharing tool within AFMC and started a grass roots pilot program.

The Air Force Knowledge Now program has become a mission essential Air

Force-wide tool used daily by tens of thousands of people.

The program enables managers throughout the Air Force to use the Air Force Portal and SIPRNET to share information and processes.

"Technology is the easy part," said Mr.

Adkins, "We focus on proven KM (knowledge management) practices to gain leadership support, break down knowledge sharing barriers, conduct workshops and build taxonomies that leverage each organization's own knowledge."

— AFMC Public Affairs



Saying Goodbye: AFMC's Vice Command

The Leading Edge spoke with Lt. Gen. Richard V. Reynolds, Air Force Materiel Command vice commander, prior to his retirement June 30.

Q What major changes have taken place since you have been at HQ AFMC?

A We have completed the first phases of the implementation of the PEO (Program Executive Officer) restructure, the center restructure, the headquarters restructure, and we've launched a whole list of other initiatives aimed at improving AFMC's ability to deliver war-winning capabilities on time and on cost. These include a restructure of field units into wings, groups and squadrons, the flying-hour program, continuing with the transformations of depot maintenance, purchasing supply-chain management, and the launch of the product support campaign. We kicked off an effort to restructure and re-engineer how the Air Force does force development for requirements and test professionals, and how we deal with test infrastructure and the aging test fleet. The list goes on and on. In short, there's been tremendous change, much of it still in the works, but a lot of it already inculcated and paying us back on our investment in time and effort. I credit General Martin and his leadership for setting a course for the command and for having the courage and tenacity to launch these initiatives and see them through. What happens in AFMC this year, next year, and well into the future will be a direct result of that leadership and his vision.

Q Do you think the reorganization has achieved the intended benefits? Where do we need to go from here?

A Absolutely, I think we have achieved the intended benefits, at least in part, for every one of the initiatives we've undertaken. Some are obviously more well developed than others. And, I think what we need to do is to continue to

refine, review and evaluate, and to add new initiatives and perhaps rethink those that aren't paying off with as high a return as we expected, or for which changing circumstances or other factors that we didn't expect have made them less effective than we anticipated. We're committed to carefully reviewing and evaluating as we go along—our intent is to periodically review at six, 12 and 18-month intervals. Following through with that is the most important thing.

Q Do you have any examples of where you've changed course due to this periodic re-evaluation?

A We've just recently re-evaluated the headquarters reorganization that we undertook, which created the Transformation Directorate and the Directorate of Capabilities Integration. Those directorates will likely be combined. Some of the responsibilities in the Mission Support Directorate having to do with day-to-day operation of our networks we've re-allocated to the Chief Information Officer and his office. Some of the information technology initiatives may also migrate to the CIO. We've also looked at some of the lesser dimensions of the PEO restructure and center restructure to re-evaluate some of the decisions, and we've made minor adjustments that have proven to be beneficial.

Q What challenges do you see for AFMC over the next year?

A Clearly, the operations and maintenance fiscal challenge that we're immersed in right now is going to keep us working hard and thinking hard through the rest of the year, so that we can finish the year with no degradation in mission performance. We had to put off a lot



Lt. Gen. Richard V. Reynolds said he got to fulfill his dreams during his 34-year career, but that it was

of things we might want to do, such as equipping ourselves with the tools to do our job, holding conferences and meetings that involve temporary duty funds. This is going to continue to challenge us through the rest of the year. The impact on the command, particularly on the sustainment side, resulting from the other MAJCOMs' handling of the situation, particularly their flying hours, input of aircraft into depot repair, their procurement of supplies—these are going to have effects in future years that could be quite dramatic. We're working hard today to figure out how we can mitigate those effects and maintain the efficiency and effectiveness that we've achieved in recent years in our depots and our supply chain.



der, Lt. Gen. Richard V. Reynolds, Retires



the people he worked with that made the experience so rewarding. (AF photo by Dave Livingston)

Q Your intended replacement, Lt. Gen. (Sel.) Terry Gabreski, is no stranger to HQ AFMC. What do you think she will bring to the vice commander position here?

A I've known and worked with Lieutenant General-select Gabreski for many years and I'm a big fan of hers. She brings a vast understanding of this command, a lot of experience here at the headquarters—her job prior to going to Oklahoma City (as commander of the Oklahoma City Air Logistics Center, Tinker AFB, Okla.) was as the director of logistics for the command. She brings a great intellect, tremendous amount of energy and what I regard as a great common sense approach to the day-to-day

operations at AFMC. I've seen her in action, I've worked with her through a long list of issues and I can't think of anybody better suited to serve as vice commander and help advance the mission of this command.

Q I understand you have Wright Wriders Membership Card No. 1. How did you first get involved in motorcycles and motorcycle safety and mentoring at Wright-Patterson?

A I'm deeply honored to be awarded Wright Wriders Membership Card No. 1. I am an active member of that private organization at Wright-Patterson. We just completed our second annual Motorcycle Mentoring Day on the 20th of May and we've already started planning for next year's event on the 19th of May. We're real proud of the participation and hope we've contributed to the safety of all Airmen—that's active duty military,

Reservists, Air National Guard, Air Force civilians, and our contractors.

I started riding motorcycles when I was in high school. I was never certified, never trained. I owned a motorcycle when I was a junior company grade officer and then did not ride for about 25 years. I returned to motorcycle riding a few years ago, but my first step was to take the Motorcycle Safety Foundation basic rider's course, which I found to be absolutely superb training. The motorcycle mentoring concept was given to us by our Chief of Staff General Jumper. On one of the early rides, during the first week in April of 2004, a number of riders from the headquarters and across Wright-Patterson got together one Wednesday

evening and hatched this idea for a motorcycle mentoring day to advance the concepts put forth by the Chief of Staff's Sight Picture, which came out on the 27th of February, 2004, titled "Motorcycle Safety: Each Rider A Mentor." That led us to create the motorcycle mentoring day, from which was born the Wright Wriders.

The Wright Wriders is a viable organization with monthly meetings and periodic rides. Shortly after we did the motorcycle mentoring day last month, 13 members of the club rode out to Washington, D.C. and participated in Rolling Thunder. On the Sunday before Memorial Day, we laid a wreath at the Vietnam Memorial in honor of a fallen comrade of one of our members, Senior Master Sgt.-Retired Pat Moseley. On the Saturday before Rolling Thunder, the Air Force Security Center held a motorcycle safety forum at Andrews (Air Force Base) in which all the Air Force members who came to Rolling Thunder could participate. (*Rolling Thunder is an annual motorcycle rally which pays tribute to veterans, prisoners of war and those missing in action.*) The Wright Wriders were there in force. (General Reynolds said later that he plans to stay active in the Wright Wriders organization).

Q Do you have any additional thoughts you'd like to share as you are about to retire?

A I've spent roughly three-quarters of my career in AFMC and its predecessor, Air Force Systems Command. There hasn't been a day that's gone by that I didn't feel lucky to be part of this great organization, doing an important job for the Air Force, for air power and the cause of peace and freedom around the world. I came into the Air Force wanting to fly jets and be an engineer. I got to fulfill both of those dreams, but when I look across 34 years, I don't see the jets or the projects. I see the people whom I got to work with and I think about how lucky I was to have had this experience.



Joining the fight

First three combat-capable Raptors delivered



By Susan Ferns
ASC Public Affairs
Wright-Patterson AFB, Ohio

The result of years of development and testing managed by the F/A 22 System Program Office at Wright-Patterson Air Force Base, Ohio culminated in a historic milestone with the delivery of the first combat-capable Raptor to the 27th Fighter Squadron, 1st Fighter Wing, Langley AFB, Va., in May.

Two more Raptors were delivered to Langley June 8.

According to Col. John Kusnierek, chief of F/A-22 production, deliveries will continue at the rate of approximately two aircraft per month.

These aircraft are the first three of 26 to be delivered to the 27th FS directly from the production line and are the first combat-capable aircraft.

Noting that the Pentagon recently gave the Raptor program the go-ahead to enter full-rate production, Brig. Gen. Thomas J. Owen, the F/A-22 SPO director at Wright-Patterson, emphasized that the Raptor has proven itself in both air-to-ground and air-to-air scenarios.

With its combined capabilities of stealth, super-cruise speed, integrated avionics and extremely agile maneuverability, it provides combat commanders with a war-winning capability that no other nation possesses, he said.

Langley's 1st FW received its first official F/A-22 from Edwards AFB, Calif., in January. The hangared aircraft serves as a maintenance trainer. Two other aircraft, on loan from Tyndall AFB, Fla., are used for pilot training.

The Raptor is built by Lockheed Martin in partnership with Boeing. It is powered by two Pratt & Whitney F-119 engines.



The first operational F/A-22 (foreground), piloted by Lt. Col. James Hecker, flies to its permanent home at Langley Air Force Base, Va., May 12. It is the first of 26 Raptors to be delivered to the 27th Fighter Squadron. Colonel Hecker is the



The 27th Fighter Squadron's first operational F/A-22 Raptor touches down at Langley Air Force Base, Va., May 12. The 27th Fighter Squadron received its first official F/A-22 from Edwards AFB, Calif., in January. It serves as a mainte-



(Below) Staff Sgt. John Barr greets Lt. Col. James Hecker upon arrival May 12 of the first operational F/A-22 Raptor at its permanent home at Langley Air Force Base, Va. Sergeant Barr is an F/A-22 crew chief. (AF photo by Staff Sgt. Elizabeth Weinberg)



squadron's commander. The Raptor program is managed by the F/A-22 System Program Office at Wright-Patterson AFB, Ohio. (AF photo by Tech. Sgt. Ben Bloker)



nance trainer. Two other F/A-22 aircraft are on loan from Tyndall AFB, Fla., for pilot training. (AF photo by Tech. Sgt. Travis Aston)

F/A-22 Fast Facts

Primary Function: Fighter, air-dominance

Wingspan: 44 feet, 6 inches

Length: 62 feet, 1 inch

Height: 16 feet, 5 inches

Powerplant: Two Pratt & Whitney F119-PW-100 engines capable of supercruise and thrust vectoring

Speed: Mach 1.8 (supercruise: Mach 1.5)

Armament: Two AIM-9 Sidewinders; six AIM-120C Advanced Medium-Range Air-to-Air Missiles (AMRAAM); one 20mm Gatling gun; and two, 1,000-pound Joint Direct Attack Munitions.

Crew: One

Builder: Boeing and Lockheed Martin Corp.

Major Subcontractors (partial list): Northrop Grumman, Texas Instruments, Kidde-Graviner Ltd., Allied-Signal Aerospace, Hughes Radar Systems, Harris, Fairchild Defense, GEC Avionics, Lockheed Sanders, Kaiser Electronics, Digital Equipment Corp., Rosemount Aerospace, Curtiss-Wright Flight Systems, Dowty Decoto, EDO Corp., Lear Astronics Corp., Parker-Hannifin Corp., Simmonds Precision.

Personnel (approximate): USAF Program Office, 350; Lockheed Martin Aeronautical Systems, 1,000; Boeing, 1,500; Lockheed Martin Tactical Aircraft Systems, 1,200; Pratt & Whitney, 1,700. (AFLink)



ON TARGET

B-1 explores use of targeting pod



By 1st Lt. David Cromwell
ASC Public Affairs
Wright-Patterson AFB, Ohio

Work being done at Wright-Patterson Air Force Base, Ohio, is ensuring that the B-1 fleet is postured for the future missions it will be tasked to carry out.

The B-1 Systems Group is designing modifications for the multi-role bomber so it can use the Sniper XR targeting pod to provide positive identification capability.

"It really became apparent in Afghanistan and Iraq that we needed this capability," said Lt. Col. George Raihala, deputy chief of the projects division at the systems group. Colonel Raihala is also a former B-1 weapon systems officer.

"In Iraq we used the B-1's ground moving target indicator radars to look for Scuds out in the western desert. The problem is our radar resolution is insufficient to positively ID a target. I would have to call in a fighter with a pod to look at it," he said.

"When you look at the B-1's tremendous capability to drop conventional weapons and you combine that with its speed and loitering ability, the addition of positive ID capability really becomes a critical factor in meeting the Chief of Staff's

objectives of reducing the F2T2EA [find, fix, track, target, engage, assess] kill chain cycle," said Eric Branum, a program manager with the B-1 Systems Group.

To provide that identification capability, engineers and program managers at Wright-Patterson are planning to configure every B-1 with the hardware and software necessary to

integrate a Sniper XR Targeting Pod with the bomber.

The aircraft and the pod will be integrated so that the pod will be cued to the B-1 radar's line of sight. When something shows up on the radar the aircrew can then feed the coordinates to the pod, pulling up a clear visual image of the target.

The image that was indistinguishable now shows what the target is, enabling positive combat identification.

"You take a capability like this and combine it with other works in progress such as the GBU-38 (500-pound JDAM)

integration and you transform the B-1 into an incredible, high-precision bomber," said Mr. Branum.

The current program has three goals: develop the START treaty compliant modifications to the hard points necessary for attaching the pylon, modify and aerodynamically qualify the pod/pylon structure for installation on the bomber, and demonstrate a limited positive identification capability.

Full-up integration of the pods on the bomber is scheduled to begin in fiscal year 2009.



A fit check was performed in May 2004 at Edwards Air Force Base, Calif., to ensure the Sniper XR targeting pod would mate correctly with the pylon. The targeting pod will provide the bomber with the positive identification capability becoming necessary for future missions. (AF courtesy photo)



Final JSTARS pays tribute to Sept. 11

The 116th Air Control Wing at Robins AFB, Ga., received the 17th and final E-8C Joint Surveillance Target Attack Radar System aircraft March 23. The wing is the only unit to fly the aircraft. The Joint STARS aircraft is the world's most advanced wide-area airborne ground surveillance, targeting and battle management system. (AF photos by Tech. Sgt. Mary Smith)



By Lanorris Askew
78th ABW Public Affairs
Robins AFB, Ga.

The ceremonial handover of the 17th and final E-8C Joint Surveillance Target Attack Radar System aircraft to the 116th Air Control Wing at Robins Air Force Base, Ga., may have marked the end of production for the surveillance giant, but according to Brig. Gen. Tom Lynn, the future of the weapon system is still bright.

"This aircraft will enable JSTARS to be even more of a force multiplier," said General Lynn, 116th ACW commander. "The great success stories of JSTARS are yet to be written. Welcome 02-9111. You're home at last."

The wing is the only unit to fly the aircraft. The JSTARS aircraft is the world's most advanced wide-area airborne ground surveillance, targeting and battle management system.

The new aircraft, dubbed P-17, officially arrived at Robins March 23, delivered by officials from the Electronic Systems Center at Hanscom Air Force

Base, Mass. An April 1 ceremony to officially turn it over to the 116th ACW gave the unit's more than 500 members a

chance to take part in the occasion.

Making the delivery official on behalf of the contractor was Dave Nagy, JSTARS vice president and program director.

"This is a great day because we're delivering capability to the war fighter," he said. "Aircraft 911 plus 1 marks a historic transition for the JSTARS program. The focus now shifts to ensuring that JSTARS stays cutting edge technology."

"We're extremely proud to give the wing another tool in the low density, high demand toolkit," said Col. James Shaw, deputy director of the JSTARS Systems Group at Hanscom. "Joint STARS demonstrated its vital role...during Operation Desert Storm and Operation Iraqi Freedom, epitomized by its ability to see through the now-famous sand storm attack."

The JSTARS aircraft is an airborne battle management, command and control, intelligence, surveillance and reconnaissance aircraft. Its primary mission is to provide ground and air commanders with ground surveillance to support attack oper-

ations and targeting that contributes to the delay, disruption and destruction of enemy forces.

General Lynn unveiled the nose art for the aircraft, which is a memorial to the events of Sept. 11, 2001, also commemorated by the aircraft's tail number. The art contains the eagle, an American flag and the phrase "Let's roll."

The E-8C is a modified Boeing 707-300 series commercial aircraft with the radar, communications, operations and control subsystems required to perform its operational mission. The most prominent external feature is the 40-foot long, canoe-shaped radome under the aircraft that houses a 24-foot long antenna.





BUOY BASICS

Partnership places buoy off
Eglin coastline



(Above) Steve Dartez tests the signal from the radio transmitter on top of the buoy using a laptop during the ride to the drop site. (courtesy photo)

(Left) Chris Cleaver and Darren Depew of the Louisiana State University Coastal Studies Institute keep tension on the buoy as it's released from the U.S. Navy barge. (courtesy photo)



By Senior Airman Mike Meares
96th ABW Public Affairs
Eglin AFB, Fla.

Eglin Air Force Base, Fla., is teaming up with the Navy and a nearby university to monitor the waters surrounding the base.

In April, the 46th Weather Squadron at Eglin, the Naval School Explosive Ordnance Disposal and Louisiana State University Coastal Studies Institute placed an oceanographic research buoy a quarter mile off shore to provide real-time wave information and meteorological conditions.

"What's great about the buoy is it provides real-time data that will be evaluated on a daily basis," said 2nd Lt. Brian Yates, 46th WS. "It will especially come in handy during tropical storm season."

The first-of-its-kind buoy off Florida's coast will act as an emergency resource decision-aid tool, early-warning enhancement and post-storm analysis tool for the weather squadron. The data provided by the buoy will also be monitored and studied by the university's researchers.

The \$65,000 buoy is designed to measure the wave height, wave period, water current profile, wave direction, water temperature, surge and tide levels. The Naval Research Laboratory, located at Stennis Space Center, Miss., funded the project to

monitor the waters for the annual Marine Corps amphibious assault training exercises and other research projects.

"There has always been great support from the military," said Steve Dartez, one of the LSU researchers. "This buoy will give us a better idea of how the water moves off the Florida coast."

A Navy barge took a four-man team from LSU and some Eglin Navy EOD divers out into the gulf to place the buoy in the right location. Divers also ensured anchor lines and cables didn't get tangled.

The buoy acts as a radio transmitter for the Acoustic Doppler Current Profile that sits between 50 and 100 yards from the buoy. The device transmits a signal every half meter to determine what the water is doing. It starts recording data for 19 minutes at the top of each hour.

A signal is sent by the buoy to a receiver and computer system attached to the Santa Rosa Island Tower. From there, the researchers at LSU can call by telephone to retrieve the saved data.

The buoy is anchored to the ocean floor by 2,730 pounds of railroad car wheels and cables with enough slack to keep it in place.

In the future, scientists at the LSU Coastal Studies Institute hope to have a network of buoys in Florida waters funded through the Defense University Research Instrumentation Program.

ROLL OUT

First Chilean F-16 becomes reality



By Susan Ferns
ASC Public Affairs
Wright-Patterson AFB, Ohio

“Foreign Military Sales is not about selling weapons; it's about building relationships that will pay dividends in peace and security for both nations in the partnership,” said Col. Robert Stambaugh, Air Force Security Assistance Center vice commander.

That was evident when representatives implementing the latest sale of fighter aircraft to Chile participated in the rollout at Fort Worth, Texas, in April of the first Chilean F-16.

The Air Force Security Assistance Center and the Aeronautical Systems Center are both involved in executing the Peace Puma Program, under which Chile has purchased 10 advanced Block 50 F-16s.

“FMS is an instrument of our foreign policy which enhances the national security of the U.S.,” said Col. Scott Jansson, F-16 Systems Group commander and ASC representative. “This event marks a significant milestone in our continuing cooperation with Chile that will lead to future benefits in coalition operations, particularly in the Western Hemisphere where Chile has already participated alongside the United States in peace-keeping operations on the ground in Haiti.”

AFSAC crafted and administers the FMS

case for the Peace Puma Program, and ASC's F-16 Systems Group is responsible for executing the program and delivering the weapon system. The U.S. Air Force acquires the aircraft on behalf of the FMS country. The F-16 Systems Group is responsible for managing the development and integration of capabilities, testing, production and delivery of Chile's F-16s.

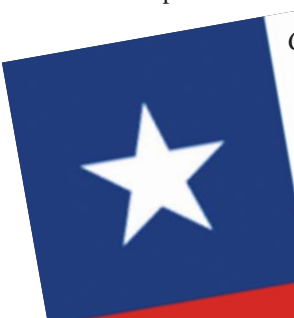
The F-16 Systems Group Peace Puma Security

Assistance program manager, Rudy Rodriguez, is responsible for carrying out the terms of the Letter of Offer and Acceptance, developed and amended as necessary by AFSAC. The LOA is effectively a contract between Chile and the United States.

Working with Lockheed Martin and other government agencies, Rodriguez is responsible for the production

and delivery of the 10 aircraft, as well as support equipment, spare parts, maintenance and pilot training, and armaments.

For example, he will work with Air Combat Command, Langley AFB, Va., to coordinate the delivery flights to Chile.



Chilean Air Force Lt. Col. Henry Cleveland, Chile's senior national representative to ASC's F-16 Systems Group, admires Chile's first F-16 in Fort Worth, Texas, with Rudy Rodriguez, F-16 Systems Group security assistance program manager, Col. Robert Stambaugh, vice commander, Air Force Security Assistance Center, and Col. Scott Jansson, F-16 Systems Group commander. (AF photo by Susan Ferns)





ALL SECURE

YOUNG AIRMEN SHOULDER BIG RESPONSIBILITY



By Tech. Sgt. Michael Dorsey
379th AEW Public Affairs
Forward deployed

Cops. They are everywhere — on the flightline, on the roadways, at the entry control points, in the search pits. They work the beat on base and beyond — and take it seriously.

“The most important thing we must (do) is to remain focused,” said Master Sgt. Donovan Holdway, 379th Expeditionary Security Forces Squadron NCO in charge of special security here deployed from Kirtland Air Force Base, N.M. “If we lose focus while performing any part of our mission the consequences can be extreme.”

Base defense is vital to ensuring the protection of the people, equipment and resources at the largest and most diverse air expeditionary wing in the area of responsibility. While it's a huge responsibility, the young security forces Airmen are more than ready to meet the challenge, according to the 379 ESFS resource protection NCO in charge.

As the military changes and evolves, much is expected of



young troops early on — especially in security forces, said Tech. Sgt. Richard Barker, deployed from Dover Air Force Base, Del. Not only do these troops enforce standards, but they're also charged with ensuring the safety and security of others. Sometimes it means responding at a moment's notice to maintain the peace or to diffuse a dangerous situation.

“When you think about what goes into making a decision like that, you can get a real appreciation for what they are



(Left) Airman 1st Class David Babcock, 379th Expeditionary Security Forces Squadron member deployed from RAF Lakenheath, England, checks person's ID card at an entry control point.



(Left) Airman 1st Class Amanda Concepcion, 379th Expeditionary Security Forces Squadron member deployed from Tinker Air Force Base, Okla., searches a vehicle.

allowed access to the base to ensure there are no improvised explosive devices or other kinds of explosives.

"In my job here you have to be focused and always be on your toes," said Airman Concepcion, deployed from Tinker Air Force Base, Okla.

Airman Concepcion has worked flight line security at Tinker AFB, and while here has worked sentry duty at the entry control points and the search pits. With only a year of experience in the career field, she saw this deployment — her first — as an opportunity for career broadening, so she volunteered.

By contrast, Sergeant Barker is not new to deployments. Over his 17-year career, he has deployed seven times and he said this is the safest he's ever felt.

"It's a reflection of the wing and the stance leadership takes on security and force protection...still the threat has kept me on my toes," he said.

"Our enemy is not a conventional one, and is therefore harder to defend against," Sergeant Barker added. "That creates a lot of new challenges for us and that includes military bases here in the area of responsibility. Protecting our resources and people is our job."

And it's a job Sergeant Barker said the young Airmen here are performing well.

"One of the biggest things I like about the young troops in our career field today is their enthusiasm," he said. "They have a lot of energy and are eager to do their part to make the mission happen. (These Airmen) are coming here and doing great things."

being asked to do," he said.

"(9/11) changed the way we do business," Sergeant Barker added. "More is expected of everyone. The senior leadership plans the fight and how we take it to the enemy, but the Airmen and young NCOs are the ones who execute the plan and ensure we all go home at the end of our deployments."

One example is Airman 1st Class Amanda Concepcion. At the search pits, she examines all vehicles before they are

(Right) Two unidentified 379th Expeditionary Security Forces Squadron Airmen guard the flight-line perimeter. (AF photos by Staff Sgt. Colette Bennett)





Marine Corps Brig. Gen. George J. Flynn, U.S. Special Operations Command Chief of Staff, presents Sara Clark, the wife of deceased Marine Gunnery Sgt. Michael Clark, with a flag. Their twin daughters, Victoria and Emelie, sit on either side of her. (AF photo by Bruce Hoffman)

Memorial honors ultimate sacrifice

Each year family, friends and fellow servicemembers gather to remember the Explosive Ordnance Disposal professionals who sacrificed their lives for their country, as their names are added to the walls of a memorial.



By Senior Airman Nicholasa M. Reed
96th ABW Public Affairs
Eglin AFB, Fla.

Five families memorialized their fallen servicemembers and the contributions they made to their country at the 36th annual Navy School Explosive Ordnance Disposal memorial at Eglin Air Force Base, Fla., in May amid a sea of Air Force, Army, Marine Corps and Navy formations.

This year's ceremony began with an invocation, opening remarks and comments by Army Brig. Gen. Walter L. Davis, commander of the 20th Support Command.

"We honor and pay homage to these latest EOD servicemembers who, like so many others, in so many past conflicts, served so valiantly in service to their nation with complete disregard for personal gain," he said.

The general's remarks were followed by the reading of the 182 names on the wall, the five names added this year and the laying of a wreath by the detachment commander and senior enlisted members for each service.

The Air Force Honor Guard's 21-gun salute preceded a two-ship flyover by an F-15 and F-16 from the 53rd Wing at

Eglin AFB. After the playing of Taps, the benediction was given by Arthur Craig who lost his son, Army

Staff Sgt. Brian Craig, an EOD technician, in 2003.

"Take peace in knowing they are now out of harm's way and in the arms of their creator," Mr. Craig said.

The EOD school's joint color guard concluded the ceremony with the retiring of the colors.

This year's fallen comrades are:

Marine Gunnery Sgt. Michael Clark, 30, a Florida native who was assigned to the 1st Explosive Ordnance Disposal Platoon at Camp Pendleton, Calif., when he was deployed to Iraq, for the second time, in support of Operation Iraqi Freedom.

He is survived by his wife, Sara, and two daughters, Victoria and Emelie.

Marine Staff Sgt. Jason Lehto, 31, assigned to the Marine Wing Service Support 471 Detachment B, was killed in the line of duty while voluntarily augmenting the Marine Wing Service Support 472 at Al-Umbar Province in Iraq during deployment.

The Michigan native is survived by his wife, Michele, and three sons, Nathan, Joseph and Joshua.

Army Cpl. Cory Hewitt, 26, a West Virginia native, was deployed to Marez, Iraq with the 705th Ordnance Company at Fort Polk, La.

Corporal Hewitt is survived by his parents, retired Sgt. 1st Class Raymond and Judy Hewitt.

Army Staff Sgt. Eric Steffeney, 29, an Iowa native served his country for three years before following his passion to become an EOD technician in 1997. Assigned to the 18th EOD Company at Fort Bragg, N.C., he deployed to Iraq for the second time in October.

He is survived by his wife, Theresa and children, Jordan, Alexis and Blake.

Army Staff Sgt. Kristopher Shepherd, 27, deployed to Camp Victory in Baghdad, with the 767th Ordnance Company from Fort McNair in Washington, D.C.

The Virginia native is survived by his mother, Shelia Campbell; wife, Ruby and children, Cheyenne and Erik.

The memorial, originally dedicated June 12, 1970, consists of four bronze tablets, one for each branch of service, encased in a single white wall.

The names listed on the memorial date back to the declaration of World War II in 1941 and include servicemembers who have died on active duty as a result of an EOD mission.

"We honor and pay homage to these latest EOD servicemembers who, like so many others, in so many past conflicts, served so valiantly in service to their nation with complete disregard for personal gain."

—Brig. Gen. Walter Davis
of the 20th Support Command



Students have a

BLAST

at 10th annual Marsville Project



By Tammie Erazo
96th ABW Public Affairs
Eglin AFB, Fla.

Upon arriving at Hangar 110, students from Cherokee, Longwood, Oak Hill and Valparaiso elementary schools broke off into mixed teams and were tasked with constructing their “cells,” made of thick plastic sheets taped together and inflated by fans. Once assembled, the teams entered their habitats to eat lunch – only 22 ounces of food per astronaut – considerations of living on Mars, including air use, food and waste, water, communication and transportation.

They made up more than 250 fifth graders from local elementary schools in the Eglin Air Force Base, Fla., area who participated in the 10th annual Marsville Project at Eglin’s Hangar 110 recently.

The event, designed to cultivate the imaginations of the students, is the culmination of six weeks of study about space, and Mars in particular.

“We have a lack of scientists and engineers in the United States right now,” said Tom Lamonds, fifth-grade Valparaiso Elementary School teacher and project organizer for the past eight years. “The goal here is to encourage the students to further their education in science, which is only natural since they love to learn about space.”

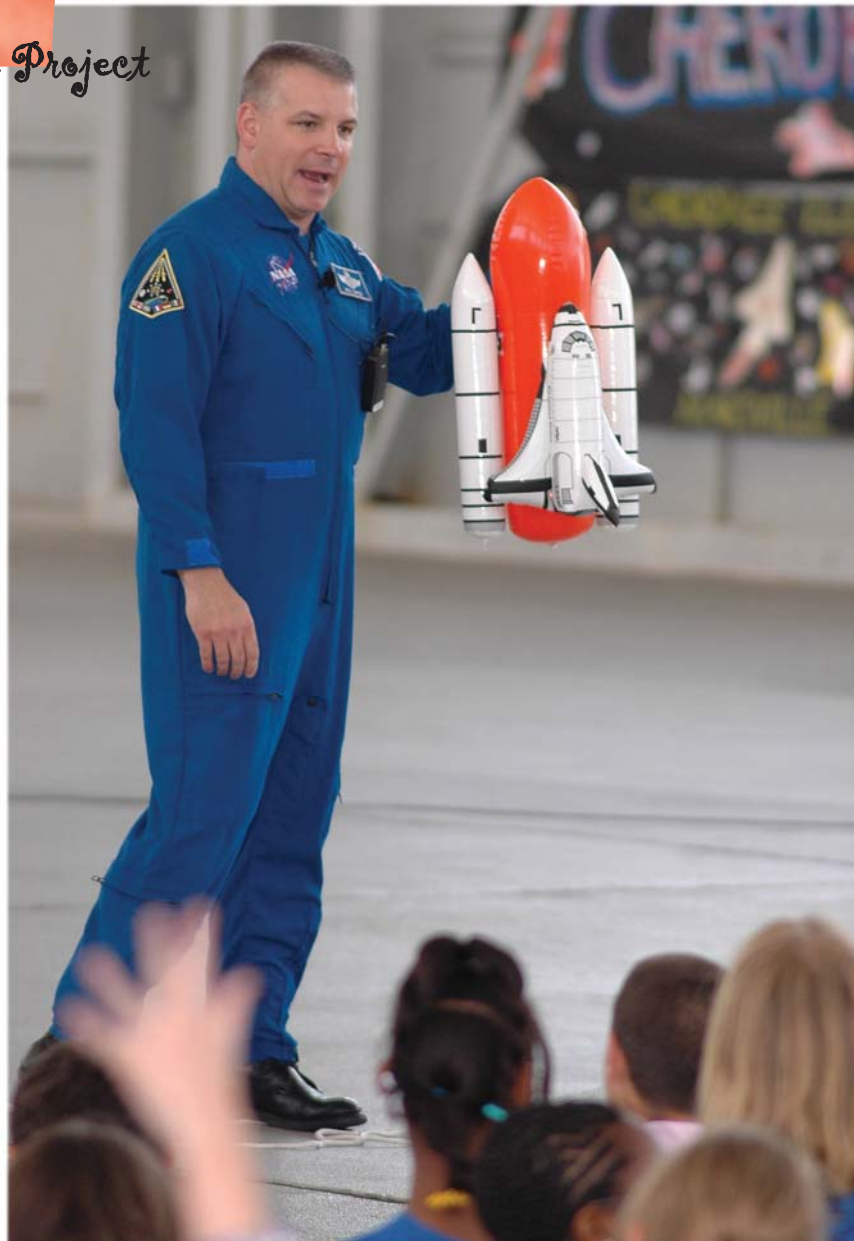
“A unique aspect of the project is that the students arrive together on the school buses and are assigned to habitats with kids they don’t know,” said Eric Pedersen, Family Support Center community readiness consultant and event organizer. “It’s a great way to foster teamwork and communication while the kids test their imaginations trying to come up with solutions to the challenges of living in space.”

According to Mr. Pederson, the three key issues that need to be addressed when planning a mission to Mars are air, food and water. To that end, the students constructed models demonstrating ways to recycle waste products as well as supply life-sustaining oxygen and food.

“We do a lot of research prior to the event,” said Donna Salsbury, fifth-grade Valparaiso Elementary School teacher. “We have speakers from the base come and talk to the kids; we talk about dried foods, radios and recycling of waste to get them thinking about what they would need to take on an actual trip to Mars.”

Ms. Salsbury said her students were eager to explore the topic of space travel and says she hopes the project inspires many to go into the fields of engineering or aeronautics.

NASA astronaut Lt. Col. Greg Johnson uses a model of the space shuttle to explain the logistics and challenges involved with planning a trip to Mars. (courtesy photo)



At the end of the project, the students were treated to a question and answer session with NASA astronaut Lt. Col. Greg Johnson, who flew in from Houston for the event. Colonel Johnson talked to the students about the atmosphere on Mars, as well as the logistics involved in actually traveling to the Red Planet. He praised the students for their enthusiasm and problem-solving skills.

“We need to be really innovative to make a trip like this happen and a lot of your ideas today were very good,” Colonel Johnson said.

As he waited for his bus at the end of the event, Cherokee Elementary School fifth-grader Robert Cevallos said his favorite parts of the day included figuring out what he would need to bring to Mars and meeting a real-life astronaut.



Mistress of moulage

Makes it real



Sunny Schones uses a flat knife to apply a gory concoction to Staff Sgt. Jason Hammond's fabricated injury before the "victim" plays his part in a recent exercise. Sergeant Hammond is with the 72nd Mission Support Squadron. (AF photo by Margo Wright)



By Jeanne Grimes
72nd ABW Public Affairs
Tinker AFB, Okla.

When Tinker Air Force Base, Okla. officials want to add a dose of reality to simulated injuries for training events, they know to call on Sunny Schones to pull a little extra duty.

As Tinker's "mistress of moulage," Ms. Schones' handiwork is all Hollywood. But for the participants in War Wagons, Warrior Weeks and Operational Readiness Inspections, the scenarios that play out in those exercises are tests of warfighting skills.

Ms. Schones, a clerk in the 72nd Medical Group's Family Practice Element 3, was first introduced to moulage — the "art of injury simulation" — at an exercise in April 2001. She volunteered for the exercise — as a patient.

If not an epiphany, the experience was definitely a calling.

"After that, I volunteered like a crazy woman," Ms. Schones said.

Eventually, she went from injured victim to make-up artist, using clay and, later, latex to create her own brand of

realistic mayhem on her fellow man.

In 2002, the Air Force paid for her to attend a 32-hour moulage class and has been using her skills ever since. Gunshots, shrapnel wounds, broken bones, traumatic amputations, radiation burns, bruises, lacerations and the like all take shape in her hands.

Yet for all her gruesome handiwork, she can't watch horror movies, even though she knows the effects on the screen are just more moulage.

When the non-commissioned officer over the moulage team at Tinker retired, officials asked Ms. Schones to take charge of the team.

She works from a script and prepares most of the injuries in advance of an exercise. Planners tell her the number and type of injuries and a doctor oversees her work.

"I have to fix [an injury] like it says on

the card," she explained, "and while I apply the moulage, I teach them how they need to act."

Volunteers who profess no acting skills become corpses.

She uses make-up to match the victims' skin tones and stage blood to add to the gore.

For Ms. Schones, the moulage work isn't just an extra duty. It's personal. Her two sons are both in service — one in the Army and the other a Marine. Both have served in harm's way. So every time she's called to the field to participate in an exercise, Ms. Schones is motivated by one thought.

"These guys could be taking care of my sons," she said. "If they don't learn how to do it here in the States..."

Volunteers come from all over to portray the injured. There have been high school drama students and Airmen. The reaction is usually the same when they glance in a mirror after Ms. Schones has worked on them — most are in awe.

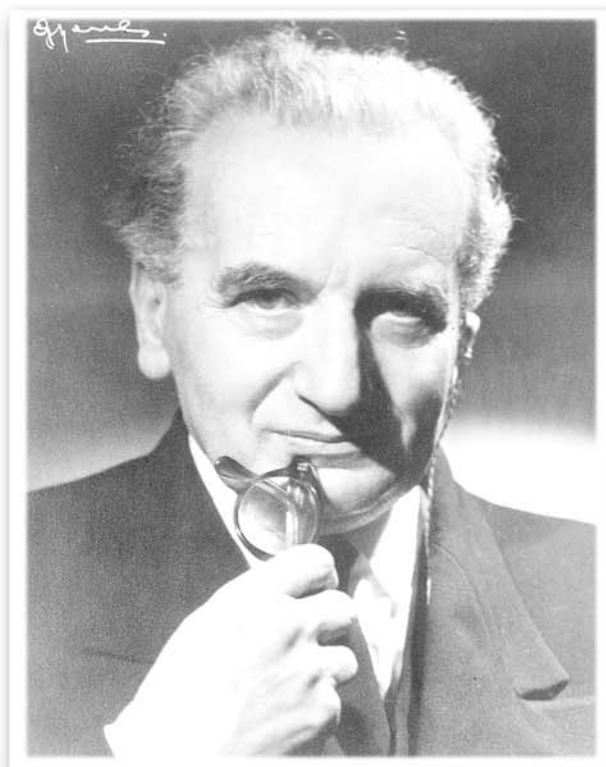
If asked, Ms. Schones lets the volunteers keep their injury as a souvenir.



"Toward New Horizons" is the formal document that implemented the idea of developing an aeronautical center to focus on the future of aircraft and was the blueprint for Air Force research and development for 50 years.
(Photo by AEDC)

Dr. von Kármán

Recognized as Honary AEDC Fellow



By Andrea Abrahams

AEDC Public Affairs
Arnold AFB, Tenn.



Aviation pioneer and noted aerodynamicist Dr. Theodore von Kármán, became the third Honorary Arnold Engineering Development Center Fellow joining General of the Air Force Henry "Hap" Arnold and retired Air Force General Bernard Schriever. He was recognized for his extensive contributions in advancing aviation technology that made American airpower the best in the world and for his key role in the establishment of AEDC at this year's AEDC Fellows banquet June 24.

His 1945 report to General Arnold titled "Toward New Horizons" was the blueprint for Air Force research and development for the Air Force for 50 years.

Dr. von Kármán was born near Budapest, Hungary, in the spring of 1881, and his technical genius was revealed at an early age. At the age of six, he could multiply six digit numbers in his head with the speed of a calculator. When he was 16 years old he was awarded the Eotvos Prize as the finest mathematics and science student in all of Hungary, opening the

door for him to begin his outstanding academic, scientific and engineering career.

Initially starting his career studying fluid mechanics at the Gottingen Mathematical Institute, Dr. von Kármán became interested in aeronautics after attending an aerial demonstration. From that point on, Dr. von Kármán dedicated his life to the science of aeronautics. He moved to Aachen, Germany, to pursue his interest in the wind, and was determined to make his mark on aerodynamics research, as director of the Aachen Aeronautical Institute.

In 1915, Dr. von Kármán found himself in the middle of WWI, and assumed the post of director of research of the Austro-Hungarian Aviation Corps. At this post he began ground-breaking work on helicopters, machine gun and propeller synchronization and fuel tank penetration.

After returning from the war and resuming his position at the Aachen Aeronautical Institute, Dr. von Kármán again focused on aerodynamics research. While he had his eye on his research, the United States, particularly the California Institute of Technology (Caltech), had their eye on him.

In the late 1920s, Caltech lured Dr. von Kármán to their facilities with a \$4,000 stipend (more than most of their faculty made in an entire year) to act as a consultant for a new wind tunnel they were planning. He dramatically changed the design of the tunnel and over the next several years divided his time between Aachen and Caltech.

By 1930, Caltech had officially added Dr. von Kármán to its staff as full-time director of the Guggenheim Aeronautical Laboratory of the California Institute of Technology. While at Caltech his laboratory became regarded as a primary center of interest in the world of aeronautical science. His personal scientific work continued and he made significant contributions to fluid mechanics, turbulence theory, supersonic flight, and mathematics in engineering, as well as aircraft structures

and wind erosion of soil.

It was not only his advances in aeronautics, but also his teaching ability that brought him notice from General of the Air Force Henry "Hap" Arnold. It was while at Caltech that Dr. von Kármán developed a vision of aeronautics similar to the vision General Arnold had for the Air Force.



Dr. Von Kármán was the first chairman of the Scientific Advisory Group that presented General of the Air Force "Hap" Arnold the idea of developing AEDC. (Photo by AEDC)

Dr. von Kármán and General Arnold realized that having a cooperative aeronautics establishment between civilian scientists and military men would have advantages for both sides. General Arnold and Dr. von Kármán had several meetings where they discussed the future of air research, and while he remained on the staff at Caltech, Dr. von Kármán began working with General Arnold to improve and advance America's Air Force.

In 1944, General Arnold asked Dr. von Kármán to establish a Scientific Advisory Group of talented scientists to review the techniques and research trends in aeronautics, evaluate Axis aeronautical research and development programs and facilities and to provide recommendations for future Air Force research and development programs. Dr. von Kármán put together several reports for General Arnold including, "Where We Stand" and "Toward New Horizons."

It was as chairman of the Scientific Advisory Group that Dr. von Kármán recommended that an air engineering devel-

opment center be established, which developed into AEDC as it is today. General Arnold's vision and Dr. von Kármán's reports led to American airpower dominance and the establishment of the Air Engineering Development Center later renamed and dedicated as the Arnold Engineering Development Center in 1951.

In October 1959, AEDC honored Dr.

von Kármán by renaming the Gas Dynamics Facility after him, marking the first time that the Air Force had named a major facility after a living person.

Dr. von Kármán made many other contributions to aerodynamics, including his active involvement in developing supersonic aircraft and Intercontinental Ballistic Missiles, developing many theories, such as the effects of forces and currents on aircraft and spacecraft and co-founding of the present NASA Jet Propulsion Laboratory in Pasadena, Calif.

He also envisioned the idea of partnership among aeronautical engineers and obtained approval from the

North Atlantic Treaty Organization to launch the NATO Advisory Group for Aeronautical Research and Development, known by its acronym AGARD, which he chaired until his death May 7, 1963.

Dr. von Kármán was, and still is, highly respected by many people in the aeronautics and scientific fields. He was the first recipient of the National Medal of Science awarded by President John F. Kennedy.

Dr. von Kármán was named to the National Aviation Hall of Fame in 1983 for his outstanding contributions to aviation and space technology, received the Presidential Medal of Merit and eight honorary doctorates.

The profound contributions to the U. S. Air Force and the scientific community made by Dr. von Kármán continue to have an impact on modern aeronautical testing technologies.

It was Dr. von Kármán's ability to translate and carry out General Arnold's vision for the future that has led the U. S. Air Force to its current unrivaled state of airpower and air capability.

(Right) Capt. Eric Tibbs, Master Sgt. Chris Mitchell and Tech. Sgt. Brad Miller work their way through the tank trap. (AF photo by Greg Murry)

(Below) Maj. William Pakula swings his way through the monkey bars during the obstacle course challenge. (AF photo by Greg Murry)



Warrior Spirit

Members of the Air Force Operational Test and Evaluations Center Detachment 2 at Robins AFB, Ga., got quite a workout during their annual obstacle course run. The event is held every spring as part of their commander's warrior fitness plan and detachment quarterly division competition.



(Right) Staff Sgt. Sean Cook and Tech. Sgt. Berwyn Tripp crawl along belly buster obstacle. (AF photo by Greg Murry)

